4. Alignment and Adjustments

4-1 General Alignment Instructions

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.

2. Observe the picture for good black and white details. There should be objectionable color shading; if color shading is present, demagnetize, perform purity and convergence adjustments described below.

3. Use the specified test equipment or its equivalent.

4. Correct impedance matching is essential.

5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.

6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.

7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.

8. To protect against shock hazard, use an isolation transformer.

4-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set is moved or turned in a different direction, the power should be OFF for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before turning power OFF.

If color shading persists, perform the following Color purity and Convergence adjustments.

4-3 High voltage Check

CAUTION : There is no high voltage adjustment on this chassis. The B+ power supply should be +135 volts (with full color- bar input and normal picture level).

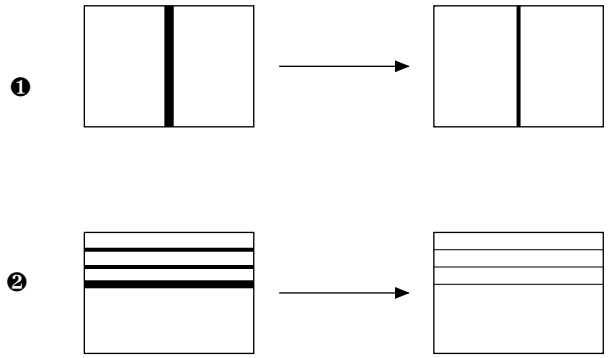
1. Connect a digital voltmeter to the second anode of the picture tube.

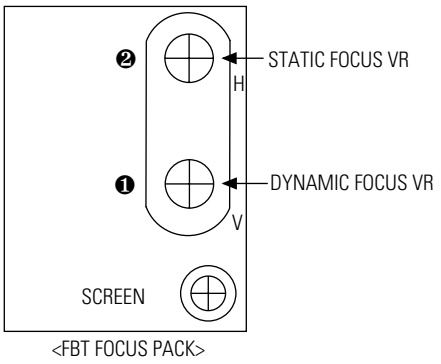
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).

3. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 32 KV under any conditions.

4-4 Dynamic Focus Adjustment

1. A dynamic focus adjustment should be done after replacing the CRT PCB, FBT or CRT.
2. Input a crosshatch pattern.
3. Enter " STANDARD " in video mode.
4. Turn the Dynamic focus VR fully clockwise (maximum).(❶)
5. Turn the Static focus VR fully counterclockwise (maximum).(❷)
6. Slowly turn the static focus VR counterclockwise. Adjust until the vertical line in the middle of the screen has maximum clarity.(❶)
7. Slowly turn the dynamic focus VR (clockwise) and adjust the 3rd horizontal line for maximum clarity.(❷)
8. Repeat 4-7, if necessary.





<FBT FOCUS PACK>

4-5 SCREEN Adjustment

1. Input Toshiba Pattern
2. Enter "Service Mode".(Refer to "Service Mode")
3. Select "G2-Adjust".
4. Set the values as example(Refer to page4-17).

ex) IBRM = 220
WDRV = 35
CDL = 220
COLR G B = 150 150 150

5. Turn the SCREEN VR until “MRCR G B” and “MRWDG” are green and those value are about 100. (The incorrect SCREEN Voltage may result that “MRCR G B” and “MRWDG” should be red)

Note 1. **When you do not have Toshiba Pattern, follow this method.**

1. Set the TV on the condition that AV mode no signal(black)
2. Enter the “Menu” and set the mode to blue screen off.
3. Enter the “Service Mode”.
4. Select “ G2-Adjust”.
5. Set the values as example(Refer to page4-17).

ex) **IBRM = 220**
WDRV = 35
CDL = 220
COLR G B = 150 150 150

6. Turn the SCREEN VR until the value of “ MRCR G B” is about 120. Do not mind that the “OSD” Color is red.

■ After completing G2-Adjust, follow this procedure.

① Enter the “Video Adjust 1”.
② Choose any item in menu. (ex. Select “Red Cutoff”)
③ Change the value of item you select, and recover the value.

For example, when the value of “Red Cutoff” is 127, change the value to 128 and restore the value to 127.

If you do not follow this procedure, the picture may be abnormal.
For example, when the TV set is on, the picture becames brighter gradually.

4-6 E²PROM (IC902) Replacement

1. When IC902 is replaced, all adjustment data revert to the initial values.
   So, all adjustment values when servicing should be readjusted.
2. After IC902 is replaced, connect the AC power supply cord.
3. Turn the power switch ON.
4. In stand-by, warm up the TV for at least 10 seconds.
5. Power on the TV.

4-7 White Balance Adjustment

■ Equipment : Color-Analyzer (CA-100)
■ Input Signal : Pattern signal (Toshiba pattern)

1. Select STANDARD from the menu.
2. Input an 100% White pattern.
3. Enter the “Service Mode”. (Refer to “4-8 Service Mode”)
4. Warm up the TV set at least for 30 minutes.
5. Input a Toshiba pattern signal.
6. Enter the “Video Adjust1”.
   - Adjust “Sub Contrast” so that Y (luminance) becomes 40 ft ± 3.
   - Use “Red Drive” and “ Blue Drive” to adjust High-Light (x : 290, y : 300)
   - Adjust “Sub Bright” so that Y (luminance) becomes 1.3ft ± 0.3.
   - Use “Red Cutoff” and “Blue Cutoff” to adjust Low-Light (x : 290, y : 300).
7. Adjust CA-100 so that the final adjustment value can be fixed.
8. Use the Channel Up / Down (▲/▼) buttons to move the cursor on the adjustment modes.
9. Use the Volume + / - buttons to change the adjustment value.

4-8 Factory Adjustment

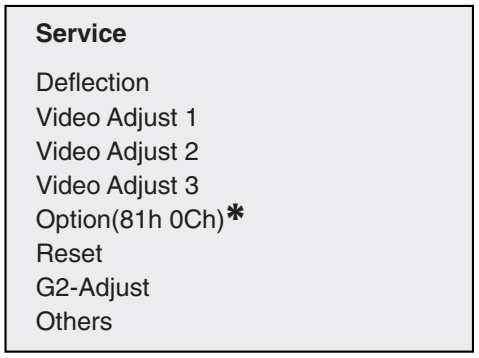
4-8-1 Service Mode

1. To enter the "Service Mode", Press the remote-control keys in this sequence :

   - If you do not have Factory remote-control

   - If you have Factory remote-control

2. After the Service Mode is entered, the initial screen is as shown in the figure below.



✱ These hexa digits are check sum value which depends on the MICOM.
If check sum value is changed, the value of E^2PROM Data newly initialed.

3. Use the Channel Up / Down buttons to move the cursor in the adjustment parameters.

Note 2.

- When CRT, CRT PCB, FBT, E^2PROM (sometimes MICOM) is replaced, the adjustment values should be controlled.

- After the Service adjustment is completed, Do not select "Reset" in the service mode menu. (After above procedure is done, power is on initially and the "Plug and Play" will be operated.)

4-8-2 Memory Data

4-8-2(A) DEFLECTION (GEOMETRIC ADJUSTMENT VALUE)

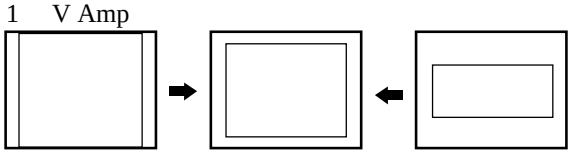
No.	OSD	Range	Function	Remark
1	V Amp	0 ~255	Adjusts Vertical picture size. Adjusts 4:4 upper and lower picture size in a lion head pattern at factory.	Adjust
2	V Shift	0 ~255	Adjusts Vertical picture position	Adjust
3	V Slope	0 ~255	Adjust Vertical Slope Correction	Adjust
4	V SC	0 ~255	Adjusts Vertical s-correction	Fix
5	H EW	0 ~255	Horizontal east west width. Adjusts 5:5 left and right picture size in a lion head pattern at factory.	Adjust
6	H Trapizium	0 ~255	Adjusts horizontal Trapezium.	Adjust
7	H Parabola	0 ~255	Adjusts Horizontal Parabola.	Adjust
8	H Corner U	0 ~255	Adjusts the top horizontal corner of picture. Adjusts so that the top of H corner can be linear.	Fix
9	H Corner L	0 ~255	Adjusts the bottom horizontal corner of picture. Adjusts so that the bottom of H corner can be linear.	Fix
10	H Shift	0 ~255	Adjusts Horizontal Position	
11	BOW	0 ~255	Adjusts Horizontal BOW	Adjust
12	Amgle	0 ~255	Adjusts Horizontal Angle	Adjust
13	H Corner U6	0 ~255	Adjusts so that the top horizontal corner of picture can be linear	Adjust
14	H Corner L6	0 ~255	Adjusts so that the bottom horizontal corner of picture can be linear	Adjust
15	V Max	0 ~255	Adjusts Max value of vertical amplitude	Fix
16	Zoom1 Amp	0 ~255	Adjusts vertical amplitude in zoom1	Fix
17	Zoom2 Amp	0 ~255	SIM-806HEW only.	
18	Zoom Trap	0 ~255	Adjusts horizontal Trapezium in Zoom	Fix
19	H-QEW	0 ~255	Short for Q-CRT HORIZNOTAL EAST WEST,data used for only Q-CRT MODEL. In NORMAL mode,horizontal picture size is within 5 ~ 5.5.In Q mode, horizontal picture size is within 6.5 ~ 7. This H QEW function sets the gap between horizontal picture size in NORMAL mode and horizontal picture size in Q mode.	Fix
20	Zoom 4:3 Para	0 ~255	Corrects the vertical linearity in Zoom mode of P-SIZE. The data depends on CRT (see data above).	
21	4:3~16:9 Para	0 ~255	Corrects the vertical linearity in 16:9 mode of P-SIZE.. The data depends on CRT (see data above).	Fix

OSD	RANGE	INITIAL DATA							Remarks
		SIM-806HEW							
		32W8VH Philips Invar Flat	32W8VH Thomson Invar Flat	28C7VH Thomson Invar 2.0R	28C7H Thomson AK 2.0R	28C7H Philips Invar 2.0R	28W6 Thomson AK 2.0R	32W6V Thomson Invar 2.0R	
V Amp	0 ~ 255	80	92	85	129	129	84	80	GEOM
V Shift	0 ~ 255	104	111	108	110	110	117	116	GEOM
V Slope	0 ~ 255	125	130	130	130	130	130	115	FIX
V SC	0 ~ 255	117	225	200	200	200	200	150	FIX
H EW	0 ~ 255	125	215	205	187	187	172	232	GEOM
H Trapizium	0 ~ 255	85	113	91	114	114	108	107	GEOM
H Parabola	0 ~ 255	65	96	65	91	91	82	92	GEOM
H Corner L	0 ~ 255	45	121	118	118	118	118	73	FIX
H Corner L	0 ~ 255	88	122	136	136	136	136	92	FIX
H Shift	0 ~ 255	185	170	174	180	180	177	185	GEOM
BOW	0 ~ 255	132	130	123	123	123	121	123	GEOM
Amgle	0 ~ 255	129	140	129	129	129	132	129	GEOM
H Corner U6	0 ~ 255	176	76	140	133	133	135	159	GEOM
H Corner L6	0 ~ 255	176	78	136	129	129	126	158	GEOM
V Max	0 ~ 255	128	128	213	213	213	128	128	FIX
Zoom1 Amp	0 ~ 255	150	143	180	180	180	146	150	FIX
Zoom2 Amp	0 ~ 255	202	173	202	202	202	171	190	FIX
Zoom Trap	0 ~ 255	128	128	128	128	128	128	128	FIX
H-QEW	0 ~ 255	-	128	-	128	-	128	-	-
Zoom 4:3 Para	0 ~ 255	-	-	-	-	-	-	-	-
4:3~16:9 Para	0 ~ 255	-	-	-	-	-	-	-	-

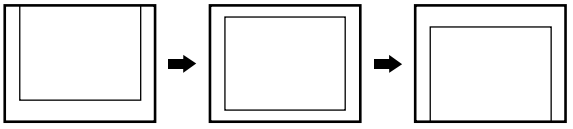
OSD	RANGE	INITIAL DATA						Remarks
		SIM-806HEW		SIM-806HMA/806HEA/806HC				
		29A8VH SED Invar Flat	28W8VH SED Invar Flat	29A7HP SED V-Before	29A7HP SED V-After	34A7HP Toshiba V-Before	34A7HP Toshiba V-After	
V Amp	0 ~ 255	128	104	148	106	133	124	GEOM
V Shift	0 ~ 255	153	109	149	141	151	125	GEOM
V Slope	0 ~ 255	133	107	134	134	134	125	FIX
V SC	0 ~ 255	210	175	206	206	189	210	FIX
H EW	0 ~ 255	109	161	183	195	179	215	GEOM
H Trapizium	0 ~ 255	108	124	110	105	95	92	GEOM
H Parabola	0 ~ 255	112	110	94	79	81	71	GEOM
H Corner L	0 ~ 255	125	108	130	130	145	134	FIX
H Corner L	0 ~ 255	118	111	133	143	150	159	FIX
H Shift	0 ~ 255	183	188	195	195	186	189	GEOM
BOW	0 ~ 255	123	127	127	127	127	127	GEOM
Amgle	0 ~ 255	129	127	128	128	128	128	GEOM
H Corner U6	0 ~ 255	126	138	131	131	127	133	GEOM
H Corner L6	0 ~ 255	136	140	130	130	134	126	GEOM
V Max	0 ~ 255	200	127	200	200	200	200	FIX
Zoom1 Amp	0 ~ 255	195	148	187	179	198	189	FIX
Zoom2 Amp	0 ~ 255	202	178	-	-	-	-	FIX
Zoom Trap	0 ~ 255	128	128	128	128	131	131	FIX
H-QEW	0 ~ 255	128	128	128	128	128	128	-
Zoom 4:3 Para	0 ~ 255	-	-	-	-	-	-	-
4:3~16:9 Para	0 ~ 255	-	-	5	5	5	5	-

4-8-2(B) SCREEN CHANGE (I2C BUS GEOMETRIC ADJUSTMENT)

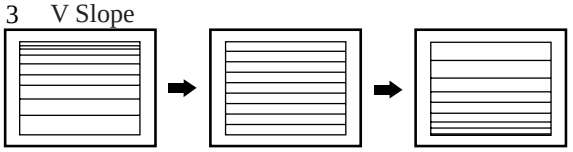
1 V Amp



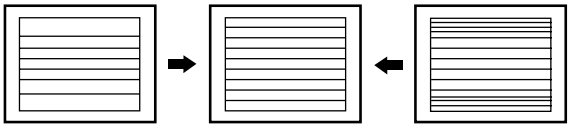
2 V Shift



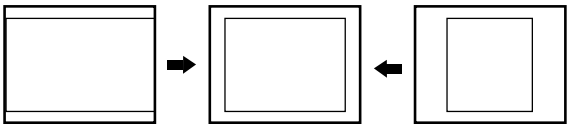
3 V Slope



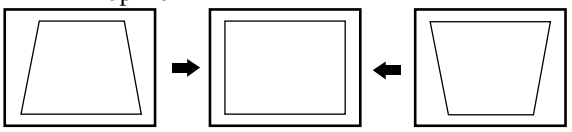
4 V SC



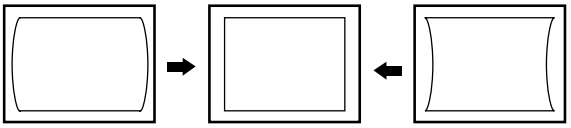
5 H EW



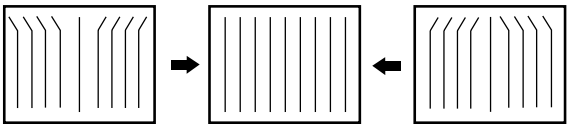
6 H Trapizium



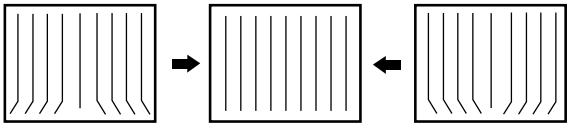
7 H Parabola



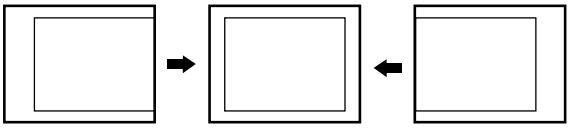
8 H Corner U



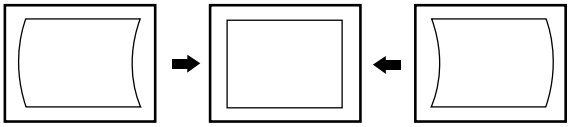
9 H Corner L



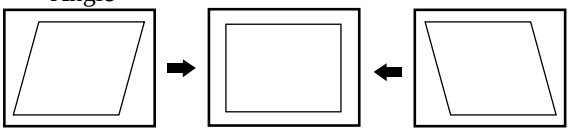
10 H Shift



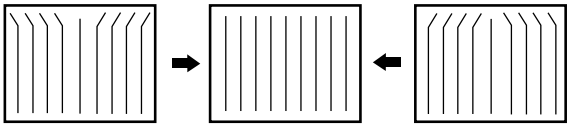
11 BOW



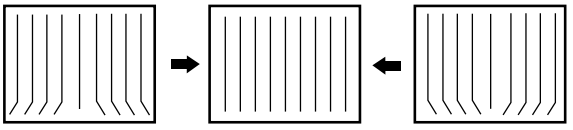
12 Angle



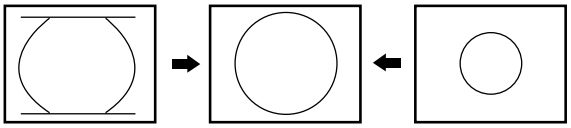
13 H Corner U6



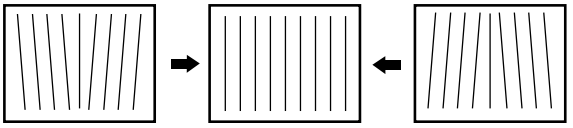
14 H Corner L6



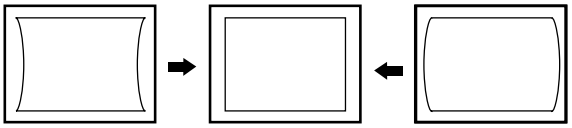
15 V Max



16 Zoom Trap



17 Zoom 4:3 Para

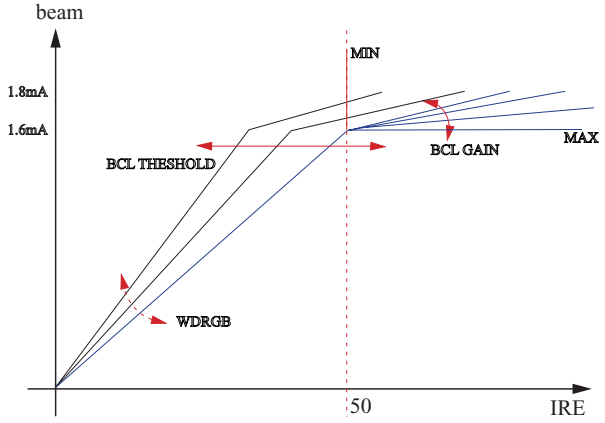


18 4:3~10:9 Para

4-8-2(C) VIDEO ADJUST 1

No.	OSD	Range	Function	Remark
1	Red Cufoff	0 ~ 255	Adjusts the gain of red output from low light.	Adjusts
2	Green Cutoff	0 ~ 255	Adjusts the gain of green output from low light. Fix this gain to 127.	Fix
3	Blue Cutoff	0 ~ 255	Adjusts the gain of blue output from low light.	Adjusts
4	Red Drive	0 ~ 255	Adjusts the gain of red output from high light.	Adjusts
5	Green Drive	0 ~ 255	Adjusts the gain of green output from high light. After "G2-Adjustment" and White Balance adjustments are complete, this data is fixed to 127.	Fix
6	Blue Drive	0 ~ 255	Adjusts the gain of blue output from high light.	Adjusts
7	Sub Bright	0 ~ 200	Adjust sub brightness level to set the low light luminancein Picture Standard mode.	Adjusts
8	Sub Contrast	0 ~ 63	Adjusts sub contrast level to set the high light luminancein Pictue Standard mode. Set the value of sub contrast to near 50. The user control "contrast" depends on this value. User contrast=[sub cont*2/100]If sub contrast data is 10,user contrast changes into 1/5step.	Adjusts
9	Sub Color	0 ~ 27	Adjusts sub color level to set the gain for color inPicture Standard mode.	Fix
10	Sub Tint	0 ~ 127	Adjusts the sub tint level of NTSC color system.	Fix
11	BCL Threshold	0 ~ 255	Beam Current Limit threshold current if SENSE input used0...-2048 BCL threshold current if RSW1 input used(max. ADC output ~2047)	Fix
12	BCL Gain	0 ~ 255	Beam Current Limit loop Gain	Fix
13	BCL Time	0 ~ 255	BCL time constant; 0 = off	Fix
14	BCL Time2	0 ~ 255	Teletext Contrast Level	Fix
15	BCL Bri Reduction	0 ~ 255	BCL Brighness Reduction	Fix
16	P.DK.YC Delay	0 ~ 8	PAL-D/K Y/C Delay	Fix
17	P.I.YC Delay	0 ~ 8	PAL-I Y/C Delay	Fix
18	P.L.YC Delay	0 ~ 8	PAL-L Y/C Delay	Fix
19	S.BG.YC Delay	0 ~ 8	SECAM-B/G Y/C Delay	Fix
20	S.DK.YC Delay	0 ~ 8	SECAM-D/K Y/C Delay	Fix
21	S.L.YC Delay	0 ~ 8	SECAM-L Y/C Delay	Fix
22	P.BG.YC Delay	0 ~ 8	PAL-B/G Y/C Delay	Fix
23	P.YC Delay	0 ~ 8	External PAL Y/C Delay	Fix
24	S.YC Delay	0 ~ 8	External SECAM Y/C Delay	Fix
25	N.YC Delay	0 ~ 8	External NTSC Y/C Delay	Fix

Note 3. **Beam Control Limit Characteristic**



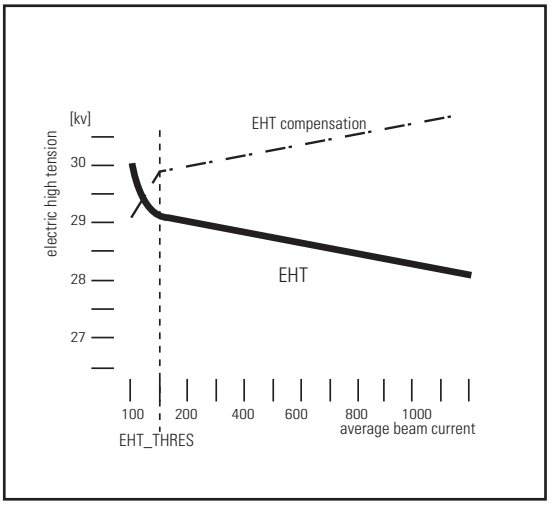
OSD	RANGE	INITIAL DATA						Remarks
		SIM-806HEW						
		32W8VH Philips Invar Flat	32W8VH Thomson Invar Flat	28C7VH Thomson Invar 2.0R	28C7H Thomson AK 2.0R	28C7H Philips Invar 2.0R	28W6 Thomson AK 2.0R	
Red Cutoff	0 ~ 255	127	127	127	127	127	127	Adjust
Greem Cutoff	0 ~ 255	127	127	127	127	127	127	Fix
Blue Cutoff	0 ~ 255	127	127	127	127	127	127	Adjust
Red Drive	0 ~ 255	127	127	127	127	127	127	Adjust
Green Drive	0 ~ 255	127	127	127	127	127	127	Fix
Blue Drive	0 ~ 255	127	127	127	127	127	127	Adjust
Sub Bright	0 ~ 200	100	100	100	100	100	100	Adjust
Sub Contrast	0 ~ 63	50	50	50	50	50	50	Adjust
Sub Color	0 ~ 27	2	2	2	2	2	2	Fix
Sub Tint	0 ~ 127	17	17	17	17	17	17	Fix
BCL Threshold	0 ~ 255	126	146	119	105	145	103	Fix
BCL Gain	0 ~ 255	59	59	59	59	59	59	Fix
BCL Time	0 ~ 255	150	150	150	150	150	150	Fix
BCL Time2	0 ~ 255	1	1	1	1	1	1	Fix
BCL Bri Reduction	0 ~ 255	125	125	125	125	125	125	Fix
P.DK.YC Delay	0 ~ 8	5	5	5	5	5	5	Fix
P.I.YC Delay	0 ~ 8	7	7	7	7	7	7	Fix
P.L.YC Delay	0 ~ 8	6	6	6	6	6	6	Fix
S.BG.YC Delay	0 ~ 8	7	7	7	7	7	7	Fix
S.DK.YC Delay	0 ~ 8	2	2	2	2	2	2	Fix
S.L.YC Delay	0 ~ 8	5	5	5	5	5	5	Fix
P.BG.YC Delay	0 ~ 8	3	3	3	3	3	3	Fix
P.YC Delay	0 ~ 8	6	6	6	6	6	6	Fix
S.YC Delay	0 ~ 8	2	2	2	2	2	2	Fix
N.YC Delay	0 ~ 8	3	3	3	3	3	3	Fix

OSD	RANGE	SIM-806HEW			SIM-806HMA SIM-806HEA SIM-806HC		Remarks
		32W6V Thomson Invar 2.0R	29A8VH SED Invar Flat	28W8VH SED Invar Flat	29A7HP SED Invar Flat	34A7HP Toshiba Invar Flat	
Red Cutoff	0 ~ 255	127	127	127	127	127	Adjust
Greem Cutoff	0 ~ 255	127	127	127	127	127	Fix
Blue Cutoff	0 ~ 255	127	127	127	127	127	Adjust
Red Drive	0 ~ 255	127	127	127	127	127	Adjust
Green Drive	0 ~ 255	127	127	127	127	127	Fix
Blue Drive	0 ~ 255	127	127	127	127	127	Adjust
Sub Bright	0 ~ 200	100	100	100	100	100	Adjust
Sub Contrast	0 ~ 63	50	50	50	45	51	Adjust
Sub Color	0 ~ 27	2	2	2	20	20	Fix
Sub Tint	0 ~ 127	17	17	17	30	30	Fix
BCL Threshold	0 ~ 255	154	122	148	175	134	Fix
BCL Gain	0 ~ 255	59	59	59	59	15	Fix
BCL Time	0 ~ 255	150	150	150	144	144	Fix
BCL Time2	0 ~ 255	1	1	1	1	1	Fix
BCL Bri Reduction	0 ~ 255	125	125	125	125	125	Fix
P.DK.YC Delay	0 ~ 8	5	5	5	6	6	Fix
P.I.YC Delay	0 ~ 8	7	7	7	6	6	Fix
P.L.YC Delay	0 ~ 8	6	6	6	8	8	Fix
S.BG.YC Delay	0 ~ 8	7	7	7	8	8	Fix
S.DK.YC Delay	0 ~ 8	2	2	2	8	8	Fix
S.L.YC Delay	0 ~ 8	5	5	5	5	5	Fix
P.BG.YC Delay	0 ~ 8	3	3	3	8	8	Fix
P.YC Delay	0 ~ 8	6	6	6	2	2	Fix
S.YC Delay	0 ~ 8	2	2	2	5	5	Fix
N.YC Delay	0 ~ 8	3	3	3	3	3	Fix

4-8-2(D) VIDEO ADJUST2

No.	OSD	Range	Function	Remark
1	Coring	0 ~255	Luminance peaking filter, coring level.	Fix
2	NR Off Value	0 ~10	Luminance peaking filter coring.	Fix
3	Melody Volume	0 ~20	Sets the level of melody volume in Picture ON. Differently controlled according to buyer and area.	Fix
4	RGB Bright	0 ~127	Adjusts RGB input signal brightness.	Fix
5	RGB Contrast	0 ~63	Adjusts RGB input signal contrast	Fix
6	EHT H Time	0 ~255	EHT time constant for horizontal phase compensation 0 = off	Fix
7	EHT H Phase	0 ~255	EHT compensation coefficient for horizontal phase (±1.5ms)	Fix
8	EHT H	0 ~255	EHT compensation coefficient for horizontal amplitude(±100 %)	Fix
9	EHT V	0 ~255	EHT compensation coefficient for vertical amplitude (± 25 %)	Fix
10	EGT V Time	0 ~255	time constant for control of vertical and horizontal amplitude EHT compensation 0 = off	Fix
11	EHT V Thres	0 ~255	threshold for vertical & horizontal ampli-tude EHT compensation	Fix
12	EHT V2	0 ~ 255	EHT compensation coeff for vertical ampli-tude valid if beamcurrent > EHTV_THRES	Fix
13	EHT H2	0 ~ 255	EHT compensation coeff for horizontal amplitude valid if beamcurrent > EHTV_THRES	Fix
14	TTX Position	0 ~ 40	Adjusts Horizontal Position the TTX	Fix
15	TTX Contrast	0 ~ 255	Adjusts contrast on TTX picture.	Fix
16	VSU	96 ~ 111	Vertical Setup Time. Delays the vertical sync to solve the jitter of OSD and TTX . Check OSD while varying 96 ~ 111 step by step and then an 1H line moves at two points.If the value is set at the first point or second point, an OSD jitter may happen. Also, if the value is set between the first andsecond points, a TTX jitter may happen. So, the value of VSU should be set after giving some magines (three steps).	Fix

Note 4. **EHT Compensation Characteristic**



OSD	RANGE	INITIAL DATA						Remarks
		SIM-806HEW						
		32W8VH Philips Invar Flat	32W8VH Thomson Invar Flat	28C7VH Thomson Invar 2.0R	28C7H Thomson AK 2.0R	28C7H Philips Invar 2.0R	28W6 Thomson AK 2.0R	
Coring	0 ~ 255	25	25	25	25	25	25	Fix
NR Off Value	0 ~ 10	1	1	1	1	1	1	Fix
Melody Volume	0 ~ 20	6	6	6	6	6	6	Fix
RGB Bright	0 ~ 127	70	70	70	70	70	70	Fix
RGB Contrast	0 ~ 63	27	27	27	27	27	27	Fix
EHT H Time	0 ~ 255	0	0	0	0	0	0	Fix
EHT H Phase	0 ~ 255	133	133	133	133	133	133	Fix
EHT H	0 ~ 255	100	100	100	100	100	100	Fix
EHT V	0 ~ 255	70	70	70	70	70	70	Fix
EGT V Time	0 ~ 255	10	10	10	10	10	10	Fix
EHT V Thres	0 ~ 255	10	10	10	10	10	10	Fix
EHT V2	0 ~ 255	60	40	60	60	60	60	Fix
EHT H2	0 ~ 255	100	85	100	100	100	100	Fix
TTX Position	0 ~ 40	5	5	5	5	5	5	Fix
TTX Contrast	0 ~ 255	200	180	200	200	200	180	Fix
VSU	96 ~ 111	96	96	96	96	96	96	Fix

OSD	RANGE	SIM-806HEW			SIM-806HMA/SIM-806HEA SIM-806HC /SIM-806EI			Remarks
		32W6V Thomson Invar 2.0R	29A8VH SED Invar Flat	28W8VH SED Invar Flat	29A7HP SED Invar Flat V-Before	34A7HP Toshiba Invar Flat V-Before	34A7HP Toshiba Invar Flat V-After	
Coring	0 ~ 255	25	25	25	25	25	25	Fix
NR Off Value	0 ~ 10	1	1	1	0	0	0	Fix
Melody Volume	0 ~ 20	6	6	6	6	6	6	Fix
RGB Bright	0 ~ 127	70	70	70	80	80	80	Fix
RGB Contrast	0 ~ 63	27	27	27	24	24	24	Fix
EHT H Time	0 ~ 255	0	0	0	0	0	0	Fix
EHT H Phase	0 ~ 255	133	133	133	133	133	133	Fix
EHT H	0 ~ 255	100	90	100	90	90	90	Fix
EHT V	0 ~ 255	70	70	70	70	70	70	Fix
EGT V Time	0 ~ 255	10	10	10	10	10	10	Fix
EHT V Thres	0 ~ 255	10	10	10	30	30	30	Fix
EHT V2	0 ~ 255	60	60	60	50	50	50	Fix
EHT H2	0 ~ 255	100	80	100	90	90	80	Fix
TTX Position	0 ~ 40	5	5	5	5	5	5	Fix
TTX Contrast	0 ~ 255	200	160	160	160	160	160	Fix
VSU	96 ~ 111	96	96	96	98	98	98	Fix

4-8-2(E) VIDEO ADJUST3

No.	OSD	Range	Function	Remark
1	Peak White Max	0~255	Sets Peak White Limit point.	Fix
2	Peak White Tilt	0~255		Fix
3	VBST	0~255	Vertical blanking startPicture the bottom position SAG or cut problem countermeasure	Fix
4	VBSO	0~255	Vertical blanking stopPicture upside position SAG or cut problem countermeasure	Fix
5	Soft Limit Slope B	0~255		Fix
6	V Peaking	0~15	Controls the size of shoot about the horizontal line of Luminance	Fix
7	HBST	0~127	Horizontal blainking startPicture right edge position SAG or cut problem countermeasure	Fix
8	Gain1(Video)	0~63	Velocity video gain	Fix
9	Delay1(Video)	0~7	Velocity video delay	Fix
10	Velocity Limit	0~127	Velocity limit	Fix
11	Velocity Delay	0~15	Velocity delay	Fix
12	Velocity Coring	0~15	Velocity frequency coring	Fix
13	V Slice Level	0~3	Allows the sync slice level of sync separate block to be changed. This item corresponds to the case where a vertical bouncing happens according to signal conditions by area (overmodulation, especially). 0: 100% 1: 90% 2: 75% 3: 60%	Fix
14	Color hys	0~255	Sets the level of SECAM Color sensitivity. It improves Hysteresis of APC Pull in range	Fix
15	PFS	-	Peaking center frequency switch	Fix
16	ACC-Ref	-	Auto Color Control gain	Fix

OSD	RANGE	INITIAL DATA						Remarks
		SIM-806HEW						
		32W8VH Philips Invar Flat	32W8VH Thomson Invar Flat	28C7VH Thomson Invar 2.0R	28C7H Thomson AK 2.0R	28C7H Philips Invar 2.0R	28W6 Thomson AK 2.0R	
Peak White Max	0 ~ 255	232	210	210	210	210	232	
Peak White Tilt	0 ~ 255	50	50	50	50	50	50	
VBST	0 ~ 255	-	184	-	-	-	184	
VBSO	0 ~ 255	-	25	-	-	-	25	
Soft Limit Slope B	0 ~ 255	3	3	3	3	3	3	
V Peaking	0 ~ 15	3	3	3	3	3	3	
HBST	0 ~ 127	0	0	0	0	0	0	
Gain1(Video)	0 ~ 63	63	50	63	63	63	50	
Delay1(Video)	0 ~ 7	1	5	1	1	1	5	
Velocity Limit	0 ~ 127	127	88	127	127	127	88	
Velocity Delay	0 ~ 15	3	7	7	7	7	7	
Velocity Coring	0 ~ 15	7	8	3	3	3	8	
V Slice Level	0 ~ 3	0	0	0	0	0	0	
Color hys	0 ~ 255	-	-	-	-	-	-	
PFS	-	-	-	-	-	-	-	
ACC-Ref	-	-	-	-	-	-	-	

OSD	RANGE	SIM-806HEW			SIM-806HMA/SIM-806HEA			Remarks
		32W6V Thomson Invar 2.0R	29A8VH SED Invar Flat	28W8VH SED Invar Flat	29A7HP SED Invar Flat V-Before	34A7HP Toshiba Invar Flat V-Before	34A7HP Toshiba Invar Flat V-After	
Peak White Max	0 ~ 255	232	232	232	210	210	210	
Peak White Tilt	0 ~ 255	50	50	50	50	50	50	
VBST	0 ~ 255	-	-	-	184	184	184	
VBSO	0 ~ 255	-	-	-	25	25	25	
Soft Limit Slope B	0 ~ 255	3	0	0	-	-	-	
V Peaking	0 ~ 15	3	7	7	3	3	3	
HBST	0 ~ 127	0	0	0	0	0	0	
Gain1(Video)	0 ~ 63	63	50	50	50	63	63	
Delay1(Video)	0 ~ 7	1	2	5	5	5	5	
Velocity Limit	0 ~ 127	127	88	88	80	127	127	
Velocity Delay	0 ~ 15	7	5	5	5	7	7	
Velocity Coring	0 ~ 15	3	8	8	7	8	8	
V Slice Level	0 ~ 3	0	0	0	-	-	-	
Color hys	0 ~ 255	-	-	-	166	166	166	
PFS	-	-	-	-	1	1	1	
ACC-Ref	-	-	-	-	-	-	-	

4-8-2(F) OPTION

SIM-806HEW : For Europe

No.	OSD	Function
1	System	Select the Broadcasting System - CZ : PAL/SECAM-B/G,D/K,I,L - CW : It is added SECAM-L function in CZ
2	Sound	Select the sound system, for example A2-Stereo/Nicam,V-dolby,Mono, L-Stereo When using MSP3411G and V-Dolby MSP3400D/MSP3410, select A2-Stereo/Nicam
3	CRT	Select P-Size Mode
4	AV Mode	Select EXT Jack (RCA/SCARTS-1,2,S-VIDEO,DVD)
5	X-Ray	Select X-Ray On/Off (On : USA, Of f: Other)
6	Tilt Control	Select Tilt On/Off
7	Auto FM	On : In Nicam Broadcasting Channel, If it happened 'Nicam Ident check bits error'or 'Sound Noise', Set Auto FM Mode.Of f :In Nicam Broadcasting Channel, Keep Nicam Mode till Nicam Ident Check bits are perfectly Off .
8	Text language	West Europe : English/German/Skandinavian/Italian/French/Spainsh/Czech East Europe : Polish/Czech/Rumanian/Slovenian/Croatian//French/Skandinavian/German/Italian Russian : Russian/Ukranian/Estonian/Czech/German/Lettish/English Greek-Turkey : English/Turkey/Greek/French/Skandinavian/German/Spainsh/Italian/ Arabic : English/Arabic/French Farsi : English/Farsi/French Arab-Hebrew : Arabic/Hebrew
9	TTX TOP	Sets TOP TTX On/Off
10	AV by CH Key	On : It can select AV Mode for CH key when the number of Pannel key is 5. Off : In case AV key is on the panel
11	Speaker	Select the Speaker . If Dome speaker, Select 'Dome Spk'. If Non Dome speaker, select 'Non Dome Spk
12	AKB	AKB(Auto kined bias) On/Off

SIM-806HMA : For Middle Asia

No.	OSD	Function
1	Language	Select OSD Language Arab : English/Arabic/French/Pakistan/Libyan : English/French/Libyan Iran : English/French/Persian/Turkey CiS : English/Russian
2	Sound	Select the sound system, for example A2-Stereo/Nicam,V-dolby,Mono, L-Stereo etc.
3	CRT	Select P-Size Mode
4	AV Mode	Select EXT Jack (RCA/SCARTS-1,2,S-VIDEO,DVD)
5	X-Ray	Sets X-Ray On/Off (On : USA, Of f: Other)
6	Tilt Control	Select Tilt On/Off
7	Auto FM	On : In Nicam Broadcasting Channel, If 'Nicam Ident check bits error'or 'Sound Noise' happens, set Auto FM mode. Of f :In Nicam Broadcasting Channel, keep Nicam mode till Nicam Ident Check bits are switched OFF completely.
8	PIP	Select 1T-PiP, 2T-PIP or PIP Off
9	Text language	West Europe : English/German/Skandinavian/Italian/French/Spainsh/Czech East Europe : Polish/Czech/Rumanian/Slovenian/Croatian//French/Skandinavian/German/Italian Russian : Russian/Ukranian/Estonian/Czech/German/Lettish/English Greek-Turkey : English/Turkey/Greek/French/Skandinavian/German/Spainsh/Italian/Arabic : English/Arabic/French Farsi : English/Farsi/French Arab-Hebrew : Arabic/Hebrew
10	LNA	If LNA(Low Noise Amplitude) Tuner, Set 'On'. : TCLS
11	Speaker	Select the Speaker .If Dome speaker, select 'Dome Spk'. If Non Dome speaker, select 'Non Dome Spk'
12	High deviation	On :If the input signal from TV Station has been overmodulated because of the 'Sound Click' noise,set 'ON' Off : Normal input Signal
13	TTX On/Off	Select TTX On/Off
14	AV by CH Key	On : It can select AV Mode for CH key when the number of Pannel key is 5. Off : In case the AV key is on the panel

SIM-806HEA : For East Asia

No.	OSD	Function
1	Language	ESAsia
2	Sound	Select the sound system, for example A2-Stereo/Nicam,V-dolby,Mono, L-Stereo etc.
3	CRT	Select P-Size Mode
4	AV Mode	Select EXT Jack (RCA/SCARTS-1,2,S-VIDEO,DVD)
5	X-Ray	Select X-Ray On/Off (On : USA, Of f: Other)
6	Tilt Control	Select Tilt On/Off)
7	Auto FM	On : In Nicam Broadcasting Channel, If it happened 'Nicam Ident check bits error'or 'Sound Noise', Set Auto FM Mode. Of f :In Nicam Broadcasting Channel, Keep Nicam Mode till Nicam Ident Check bits are perfectly Off.
8	PIP	Select 1T-PiP, 2T-PIP or PIP Off
9	Text language	West Europe : English/German/Skandinavian/Italian/French/Spainsh/Czech East Europe : Polish/Czech/Rumanian/Slovenian/Croatian//French/Skandinavian/German/Italian Russian : Russian/Ukranian/Estonian/Czech/German/Lettish/English Greek-Turkey : English/Turkey/Greek/French/Skandinavian/German/Spainsh/Italian/ Arabic : English/Arabic/French Farsi : English/Farsi/French Arab-Hebrew : Arabic/Hebrew
10	LNA	If LNA(Low Noise Amplitude) Tuner, Set 'On'. : TCLS
11	Speaker	Not available(Must off)
12	High deviation	On :If it happened 'Sound click' Noise cause that the input signal from TV Station has been over modulated,Set 'ON'Off : Normal input Signal
13	TTX On/Off	Select TTX On/Off
14	AV by CH Key	On : It can select AV Mode for CH key in case that the number of Pannel key is 5. Off : In case that it is AV key in pannel

Note 5. Sound IC & System

Sound	IC601
A2/NICAM	MSP3400D, MSP3410D
V-DOLBY	MSP3411G
Mono	Not used this mode for KS3A Chassis
L-Stereo	

4-8-2(G) G2-ADJUST

No.	OSD	Range	Function	Remark
1	MRCR	0 ~ 255	Measurement Result Resisters; Cutoff/Leakage Red	Measure data
2	MRCG	0 ~ 255	Measurement Result Resisters; Cutoff/Leakage Green	Measure data
3	MRCB	0 ~ 255	Measurement Result Resisters; Cutoff/Leakage Blue	Measure data
4	MRWDG	0 ~ 255	Measurement Result Resisters; White Drive	Measure data
5	IBRM	0 ~ 255	Internal Brightness, Measurement (0 .. 511), the center value is 256, the brightness for measurement can be set to measure at higher cutoff current. The measurement brightness is independent of the drive values." Adjust Horizontal OSD/TTX Position	G2 Voltage of CRT
6	WDRV	0 ~ 255	White Drive Measurement Control; RGB Values for White Drive Beam Current Measurement	Fix
7	CDL	0 ~ 255	Cathode Drive Level Uses the same register as the RGB drive in Video adjust-1.	Fix
8	COL(G)	0 ~ 255	Cutoff Level Red Uses the same register as the RED cutoff in Video adjust-1.	Fix
9	COL(G)	0 ~ 255	Cutoff Level GreenUses the same register as the GREEN cutoff in Video adjust-1.	Fix
10	COL(B)	0 ~ 255	Cutoff Level BlueUses the same register as the BLUE cutoff in Video adjust-1.	Fix

After setting COL/CDL/WDRV/IBRM to each spec of models, adjust the screen VR till the color of MRCR/MRCG/MRCB/MRWDG becomes green

OSD	RANGE	INITIAL DATA						Remarks
		SIM-806HEW						
		32W8VH Philips Invar Flat	32W8VH Thomson Invar Flat	28C7VH Thomson Invar 2.0R	28C7H Thomson AK 2.0R	28C7H Philips Invar 2.0R	28W6 Thomson AK 2.0R	
MRCR	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRCG	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRCB	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRWDG	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
IBRM	0 ~ 255	205	220	210	210	208	203	G2 Vlotage of CRT
WDRV	0 ~ 255	35	40	44	44	42	42	Fix
CDL	0 ~ 255	200	255	220	220	234	165	Fix
COL(R)	0 ~ 255	210	162	185	185	150	205	Fix
COL(G)	0 ~ 255	210	162	185	185	150	205	Fix
COL(B)	0 ~ 255	210	162	185	185	150	205	Fix

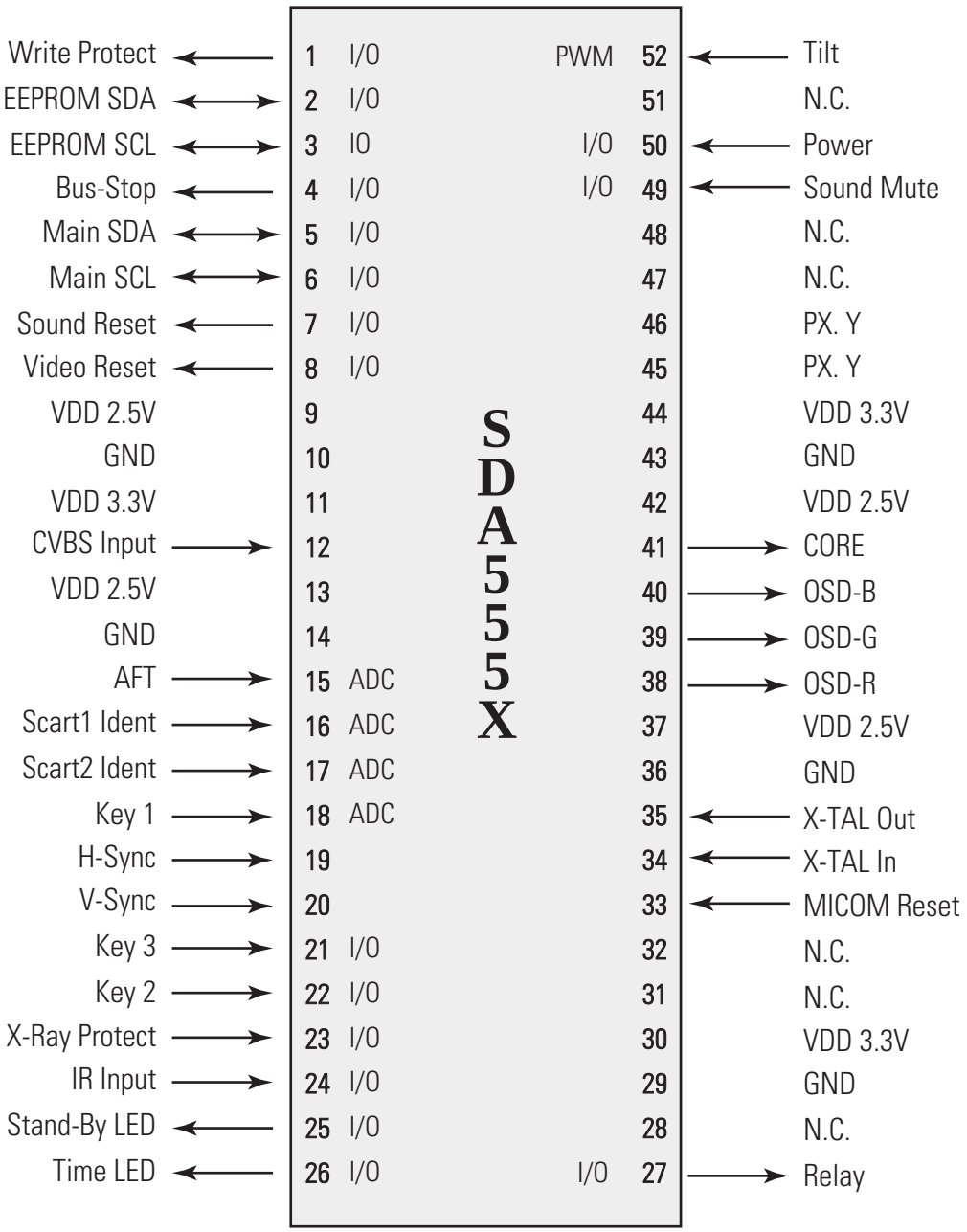
OSD	RANGE	SIM-806HEW			SIM-806HEA/SIM-806HMA SIM-806HC		Remarks
		32W6V Thomson Invar 2.0R	29A8VH SED Invar Flat	28W8VH SED Invar Flat	29A7HP	34A7HP	
MRCR	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRCG	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRCB	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
MRWDG	0 ~ 255	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	90 ~ 120	Measure data
IBRM	0 ~ 255	216	210	206	200	210	G2 Vlotage of CRT
WDRV	0 ~ 255	51	47	46	45	40	Fix
CDL	0 ~ 255	210	245	200	215	205	Fix
COL(R)	0 ~ 255	106	57	64	130	145	Fix
COL(G)	0 ~ 255	106	57	64	130	145	Fix
COL(B)	0 ~ 255	106	57	64	130	145	Fix

4-8-2(H) OTHERS(EXCEPT SIM-806HEW)

No.	OSD	Range	Initial data		Function	Remark
			SIM-806HEA SIM-806HMA SIM-806HC			
			29A7HP	34A7HP		
1	AKB		**On**	**On**	Short for Auto Kined Bias, this function maintains uniformity inbrightness and white balance by automatically correcting the variance of brightness and white balance according to temperature and characteristics of AMP in the CRT drive	Must ON
2	TTX List Priority		**Off**	**Off**	TTX mode has two different types; List and FLOF. When swtiching into the TTX mode, this function determines which type has priorty. On : Australia Off : others	CountryOption
3	PIP Contrast		**3**	**3**	Adjusts PIP contrast.	
4	PIP Tint		**0**	**0**	Adjusts PIP Tint. When a NTSC signal is received, this PIP Tint adjusts color phase	
5	PIP V.Move		**3**	**3**	Adjusts PIP Internal data position	
6	PIP PAL V.Pos		**28**	**28**	Adjusts Vertical position the PIP of PAL system.	
7	PIP NTSC V.Pos		**28**	**28**	Adjusts Vertical position the PIP of NTSC system.	
8	PIP H.Pos		**34**	**34**	Adjusts Horizontal Position the PIP.	
9	PIP VSPDEL		**9**	**5**	PIP vertical sync pulse delay. When chaning data, PIP jitters at two points. In this case, the PIP VSPDEL is set to the center between two points.	
10	PIP BLKL G		**7**	**7**	Adjusts PIP blanking level green (PIP low light white balance).	

4-9 MICOM

4-9-1 Pin Layout



4-9-2 Pin Assignment Specification

PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
1	I/O	Write Protect	Out	Low	EEPROM Write Protection
2	I/O	ROM SDA	I/O		EEPROM Serial Data Line
3	I/O	ROM SCL	I/O		EEPROM Serial Clock Line
4	I/O	Bus Stop	In	Low	Disable Micom IIC
5	I/O	Main SDA	I/O		Peripheral IC Serial Data Line
6	I/O	Main SCL	I/O	Low	Peripheral IC Serial Clock Line
7	I/O	Sound Reset	Out	Low	MSP IC Initial Control
8	I/O	Video Reset	Out		VDP IC Initial Control
9	Vdd	VDD 2.5V			
10	GND				
11	Vdd	VDD 3.3V			
12	CVBS	CVBS Input	In		TTX CVBS Input
13	Vdd	VDD 2.5V			Analog B+
14	GND				Analog Ground
15	ADC	AFT	In		Auto Fine Tuning Control
16	ADC	SC1-ID	In		Scart1 Ident
17	ADC	SC2-ID	In		Scart2 Ident
18	ADC	Key1	In		Key1 Input
19	HS	H-Sync	In		Horizontal Sync Input
20	VS	V-Sync	In		Vertical Sync Input
21	I/O	Key3	In		Key3 Input
22	I/O	Key2	In		Key2 Input
23	I/O	X-Ray	In		X-Ray Protection
24	I/O	IR-In	In		Remocon Signal Input
25	I/O	STD-LED	Out		LED Drive Output(Red)
26	I/O	TIM-LED	Out		LED Drive Output(Green)

4-9-2 Pin Assignment Specification (Continued)

PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
27	I/O	Relay	Out	Low	Activate Degaussing Coil
28	N.C.				Not Used (Programmed Gound Level)
29	GND				Analog Ground
30	Vdd	VDD 3.3V			Not Used (Programmed Gound Level)
31	N.C.				Not Used (Programmed Gound Level)
32	N.C.				Micom Hardware Reset
33	Reset	Reset	In	Low	Crystal Oscillation Input
34	X-In	X-TAL In	In	6MHz	Crystal Oscillation Output
35	X-Out	X-TAL Out	Out	6MHz	Analog Ground
36	GND				Analog B+
37	Vdd	VDD 2.5V			OSD/TTX Output (Red)
38	R	OSD-R	Out		OSD/TTX Output (Green)
39	G	OSD-G	Out		OSD/TTX Output (Blue)
40	B	OSD-B	Out		Fast Blank/Half Contrast Output
41	COR	CORE	Out		
42	Vdd	VDD 2.5V			
43	GND				
44	Vdd	VDD 3.3V			
45	I/O	PX.Y	In		When The Caption Function Adopted, Used.
46	I/O	PX.Y	Out		
47	N.C.				Not Used (Programmed Gound Level)
48	N.C.				
49	I/O	S-Mute	Out	High	Sound Amp Mute
50	I/O	Power	Out	Low	Picture On/Off Control
51	N.C.				Not Used (Programmed Gound Level)
52	I/O	Tilt	Out	PWM	Tilt Control Output

MEMO